WHAT IS CLAIMED IS:

1. A method for fabricating a micro machine comprising the steps of:

implanting oxygen ions into a first region of a first semiconductor substrate, and performing thermal processing to form an oxide film buried in the first semiconductor substrate, spaced from the surface of the first semiconductor substrate;

bonding the surface of the first semiconductor substrate with the oxide film buried in to a second semiconductor substrate with an insulation film therebetween;

forming a first mask with an opening in the first region and a second region on both sides of the first region on the surface of the first semiconductor substrate, which is opposite to the surface with the oxide film buried in;

etching the first semiconductor substrate with the first mask and the oxide film as a mask to form a spring portion integral with the first semiconductor substrate between the oxide film and the insulation film to thereby form a torsion bar including the spring portion;

forming a second mask with an opening in the first region and the second region on the surface of the second semiconductor substrate, which is opposite to the surface bonded to the first semiconductor substrate;

etching the second semiconductor substrate with the second mask as a mask; and

etching the insulation film in the first region and the second region.

32. A method for fabricating a micro machine according to claim 1, wherein

in the oxide film burying step, after oxygen ions have been implanted in the first semiconductor substrate, a semiconductor layer is further formed on the surface of the first semiconductor substrate with the oxygen ions implanted in.

33. A method for fabricating a micro machine according to claim 1, which further comprises, prior to the step of bonding the first semiconductor substrate to the second semiconductor substrate, the step of:

implanting oxygen ions in the first region on the side of the surface of the second semiconductor substrate, which is to be bonded to the first semiconductor substrate, and performing thermal processing to thereby form another oxide film buried in the second semiconductor substrate, spaced from the surface of the second semiconductor substrate, and in which

in the step of bonding the first semiconductor substrate to the second semiconductor substrate, the surface of the first semiconductor substrate with the oxide film buried in is bonded to the surface of the second semiconductor substrate with said another oxide film buried in with the insulation film therebetween, and

in the torsion bar forming step, with the second mask and said another oxide film as a mask, the second semiconductor

substrate is etched to form another spring portion integral with the second semiconductor substrate between said another oxide film and the insulation film to thereby form the torsion bar further including said another spring portion.

4. A method for fabricating a micro machine according to claim 3, which further comprises, prior to the step of bonding the first semiconductor substrate to the second semiconductor substrate, the step of:

implanting oxygen ions in the first region on the side of the surface of the second semiconductor substrate, which is to be bonded to the first semiconductor substrate, and performing thermal processing to thereby form another oxide film buried in the second semiconductor substrate, spaced from the surface of the second semiconductor substrate, and in which

in the step of bonding the first semiconductor substrate to the second semiconductor substrate, the surface of the first semiconductor substrate with the oxide film buried in is bonded to the surface of the second semiconductor substrate with said another oxide film buried in with the insulation film therebetween, and

in the torsion bar forming step, with the second mask and said another oxide film as a mask, the second semiconductor substrate is etched to form another spring portion integral with the second semiconductor substrate between said another oxide film and the insulation film to thereby form the torsion bar further including said another spring portion.

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5. A method for fabricating a micro machine according to claim 9, wherein

in the step of burying said another oxide film, after oxygen ions have been implanted in the second semiconductor substrate, another semiconductor layer is further formed on the surface of the second semiconductor substrate with the oxygen ions implanted in.

6. A method for fabricating a micro machine according to claim 4, wherein

in the step of burying said another oxide film, after oxygen ions have been implanted in the second semiconductor substrate, another semiconductor layer is further formed on the surface of the second semiconductor substrate with the oxygen ions implanted in.

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7. A method for fabricating a micro machine according to claim 1, which further comprises, prior to the step of bonding the first semiconductor substrate to the second semiconductor substrate, the step of:

forming a first through-hole in the first semiconductor substrate and forming a second through-hole in the second semiconductor substrate; and in which

in the step of bonding the first semiconductor substrate to the second semiconductor substrate, the first semiconductor substrate and the second semiconductor substrate are aligned by using the first through-hole and the second through-hole.

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8. A method for fabricating a micro machine according

to claim 9, which further comprises, prior to the step of bonding the first semiconductor substrate to the second semiconductor substrate, the step of:

forming a first through-hole in the first semiconductor substrate and forming a second through-hole in the second semiconductor substrate; and in which

in the step of bonding the first semiconductor substrate to the second semiconductor substrate, the first semiconductor substrate and the second semiconductor substrate are aligned by using the first through-hole and the second through-hole.

10. A method for fabricating a micro machine according to claim 6, further comprising the step of:

burying a buried layer in the first through-hole and the second through-hole.

13. A method for fabricating a micro machine according to claim 12, further comprising the step of:

burying a buried layer in the first through-hole and the second through-hole.

11. A method for fabricating a micro machine according to claim 9, wherein

a part of the buried layer buried in the first through-hole and the second through-hole is removed to thereby form a cavity, and the cavity is used in the alignment.

14. A method for fabricating a micro machine according to claim 13, wherein

a part of the buried layer buried in the first through-hole

and the second through-hole is removed to thereby form a cavity, and the cavity is used in the alignment.

13. A method for fabricating a micro machine according to claim 1, wherein

in the step of bonding the first semiconductor substrate to the second semiconductor substrate, the first semiconductor substrate and the second semiconductor substrate are bonded to each other by the thermal processing.

14. A method for fabricating a micro machine according to claim 9, wherein

in the step of bonding the first semiconductor substrate to the second semiconductor substrate, the first semiconductor substrate and the second semiconductor substrate are bonded to each other by the thermal processing.

15. A method for fabricating a micro machine comprising the steps of:

forming an insulation film on a semiconductor substrate;

forming a first semiconductor layer on the insulation film;

forming a first mask in a first region on the first semiconductor layer;

growing a second semiconductor layer on the first semiconductor layer and the first mask;

forming on the second semiconductor layer a second mask with an opening in the first region and a second region on both sides of the first region;

etching the first semiconductor layer and the second

semiconductor layer with the first mask and the second mask as a mask to thereby form a torsion bar integral with the first semiconductor layer between the first mask and the insulation film;

forming a third mask with an opening in the first region and the second region on the surface of the semiconductor substrate, which is opposite to the surface with the first semiconductor layer formed on; and

etching the semiconductor substrate with the third mask as a mask.